

Electronically filed August 15, 2011

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application of: Jon M. Long

Confirmation No.: 4099

Serial No. 10/757,695

Art Unit: 2811

Filing Date: January 13, 2004

Examiner: Steven Ho Yin Loke

Title: REDUCED INDUCTANCE IC
LEADED PACKAGE

Attorney Docket No: 060889-0103

AMENDMENT

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

This Amendment is in response to the final Office Action mailed April 15, 2011. Please amend the above-identified application as set forth on the following pages:

IN THE CLAIMS:

Please revise the claims to read as follows:

1. (Previously presented) An electrical device package comprising:
a die;
a plurality of lead fingers, some of the lead fingers being electrically connected to the die;
a conductive sheet having an inner region, an outer region and at least one opening in the sheet, the inner region being electrically connected to the die, and the outer region being electrically connected to at least one of the lead fingers and electrically insulated from other lead fingers electrically connected to the die, the conductive sheet providing at least one return current path from the die through the inner and outer regions of the conductive sheet to the lead finger(s) electrically connected to the conductive sheet; and
an encapsulant containing the die and the conductive sheet, a portion of the encapsulant on one side of the conductive sheet being physically connected to another portion of the encapsulant on the other side of the conductive sheet through the at least one opening in the conductive sheet.
2. (Currently amended) The electrical device package of claim 1, wherein the ~~plurality of~~ lead fingers are substantially parallel to one another and the distance between two immediately adjacent lead fingers is about 80-100 microns.
3. (Original) The electrical device package of claim 1, wherein the inner region of the conductive sheet is electrically connected to a die attach pad and the die attach pad is electrically connected to a first surface of the die.

4. (Original) The electrical device package of claim 3, wherein the first surface of the die has a plurality of bond pads and the die attach pad is electrically connected to one of the bond pads through a bondwire.
5. (Original) The electrical device package of claim 1, wherein the at least one of the plurality of lead fingers is electrically connected to a ground.
6. (Original) The electrical device package of claim 1, wherein the at least one of the plurality of lead fingers is electrically connected to a power supply.
7. (Currently amended) The electrical device package of claim 1, wherein the at least one opening has an area greater than or equal to 50% of a solid area of the conductive sheet.
8. (Original) The electrical device package of claim 1, wherein the at least one opening comprises a plurality of through holes in the conductive sheet.
9. (Currently amended) The electrical device package of claim 8, wherein the ~~plurality of~~ through holes are regularly spaced on the conductive sheet and ~~the dimension of~~ each hole is large enough for the encapsulant to move through the hole.
10. (Currently amended) The electrical device package of claim 9, wherein ~~the~~ each through hole has a diameter of ~~the through holes is~~ at least 4 mils.
11. (Original) The electrical device package of claim 1, wherein the conductive sheet is made of copper.
12. (Original) The electrical device package of claim 1, wherein the conductive sheet is a mesh made of copper.
13. (Previously presented) An electrical device package comprising:
a die attach pad;

a die having a first surface and a second surface and a plurality of bond pads on the first surface, the second surface being adhered to the die attach pad and at least one of the plurality of bond pads being electrically connected to the die attach pad;

a plurality of lead fingers, a subset of the plurality of lead fingers being electrically connected to a subset of the bond pads on the first surface of the die through bondwires;

a conductive sheet having an inner region, an outer region and an array of through holes, the inner region being electrically connected to the die attach pad, and the outer region being electrically connected to at least one of the plurality of lead fingers and electrically insulated from other lead fingers that are electrically connected to the subset of bond pads, the conductive sheet providing at least one return current path from the die through the inner and outer regions of the conductive sheet to the lead finger(s) electrically connected to the conductive sheet; and

an encapsulant that encapsulates the die, the die attach pad and the conductive sheet, a first part of the encapsulant being physically connected to a second part of the encapsulant through the plurality of through holes in the conductive sheet.

14.-21. (Canceled)

21. (Previously presented) An electrical device package comprising:

a plurality of lead fingers;

a die having a first surface and a second surface and a plurality of bond pads on the first surface, said die being connected to the lead fingers by first bondwires between at least some of the bond pads and some of the lead fingers;

a conductive sheet extending between the die and the plurality of lead fingers, the conductive sheet being electrically insulated from said first bondwires and the lead fingers to which the bondwires are connected;

an electrical connection between at least one bond pad and an inner region of the conductive sheet; and

an electrical connection between at least one lead finger and an outer region of the conductive sheet,

wherein the conductive sheet provides at least one return current path from the die through the inner and outer regions of the conductive sheet to the lead finger(s) electrically connected to the conductive sheet.

REMARKS

In the final Office Action of April 15, 2011, claims 1 – 13 were allowed. Claim 21 was rejected under 35 U.S.C. 102(b) as anticipated by USP 6,310,388 to Bissey.

Applicant wishes to thank the Examiner for his indication that claims 1 – 13 are allowed.

Claim 21 has been cancelled. Minor grammatical changes have been made in dependent claims 2 and 7; and claims 7, 9 and 10 have been revised to eliminate antecedent problems.

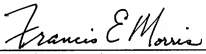
In view of the above, all the claims in this application are believed to be allowable.

Aside from the fee for an extension of time, no additional fee is believed to be due for filing this response. However, if a fee is due, please charge such fee to Ward & Zinna, LLC Deposit Account No. 23-0420.

If the Examiner believes a telephone interview would expedite prosecution of this application, the Examiner is invited to call applicant's attorney at the number given below.

Respectfully submitted,

Date: August 15, 2011

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